POLICY RESEARCH WORKING PAPER 2462

Foreign Entry in Turkey's Banking Sector, 1980–97

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One remarkable consequence of Turkey's financial liberalization has been the large number of foreign banks entering the banking sector. Their effect? They appear to have increased competition and to have reduced the overhead expenses of domestic commercial banks, strengthening profits.

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Summary findings

Despite high and volatile inflation, a record number of foreign and local banks entered Turkey's banking sector after the country relaxed rules about bank entry and generally eliminated controls on interest rates and financial intermediation in 1980. The country's financial integration with the rest of the world took a big step forward with the opening up of the capital account in 1989. Capital inflows rose significantly, and the financial system became increasingly linked with external markets.

Denizer examines one dimension of liberalization: the impact of foreign banks entering the financial sector. Between 1980 and the end of 1997, 17 foreign banks and a number of new local banks entered the sector.

Denizer investigates how these banks' entry into the sector affected performance based on three measures: net interest margin, overhead expenses, and return on assets (all expressed as a percentage of total assets). He finds that:

- Foreign bank ownership is related to all three performance measures.
- Foreign bank entry reduced the overhead expenses of domestic commercial banks, strengthening profits.
- Despite their small scale of operations, foreign banks entering the sector had a strong effect on competition. But the market could use more competition.
- There are strong indications that foreign banks had a positive impact on financial and operations planning, credit analysis and marketing, and human capital.

This paper—a product of the Poverty Reduction and Economic Management Sector Unit, Europe and Central Asia Region—is part of a larger effort in the region to understand the effects of foreign bank entry in domestic financial markets. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Irina Partola, room H4-346, telephone 202-473-5759, fax 202-522-2751, email address ipartola@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at cdenizer@worldbank.org. October 2000. (29 pages)

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by

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The World Bank

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I. INTRODUCTION

Since June 1980 Turkish financial markets have been greatly opened up and liberalized. Reforms were implemented as part of a structural adjustment program to switch to an outward-oriented growth strategy. They had two key elements: the first was the elimination of controls on interest rates, and a significant reduction in directed credit programs; the second was the relaxation of entry barriers into the banking system to promote competition and increase efficiency. There were also measures to develop equity and bond markets. In 1984 Turkish residents were allowed to open foreign currency accounts in banks, increasing product variety and services. This process culminated in the opening up of the capital account in 1989, further facilitating international trade in goods and financial services.

These were important changes considering the earlier constraints on financial markets. Interest rates had been controlled since the 1940s, in line with the state-led development strategy based on import substitution, and they had been changed only five or six times until 1978. This led to non-price competition by banks already in the system through opening up of new branches. Directed credit programs absorbed almost 75 percent of loanable funds. Entry, especially after early 1960s, had been highly restrictive. This situation, coupled with the exit of a large number of banks during the 1960-80 period, resulted in a concentrated market dominated by large private and public banks with extensive branch networks. Of the 42 banks in 1980, only four were foreign. Hence, prior to 1980, the bank-dominated financial sector was uncompetitive and inefficient with a limited range of products (Denizer, 1997). The government strictly controlled the capital account.

There have been marked changes in the financial sector following the liberalization of financial prices and policies. While there were occasional setbacks during 1980-89, the trend has been towards liberalization. By 1989, interest rates were market-determined. This halted the decline in financial intermediation ratios observed prior to 1980 and contributed to financial deepening. The new regulatory regime attracted a large number of banks, both Turkish and foreign, and sectoral concentration decreased. The Istanbul Stock Exchange was reopened and, over time, became an integral part of the financial system. Government securities began to be auctioned in 1985 and quickly became an important portion of the stock of financial assets. The interbank market began to operate in 1986 allowing banks to lend and borrow from each other for overnight facilities.

What has been remarkable about the financial opening-up episode in Turkey has been the entry of foreign banks in large numbers. By 1990, there were 23 foreign banks in the system meaning 19 new entries, matching the number of de novo entries by the Turkish banks. Interestingly, however, there have been very few studies of their impact on the Turkish financial system. Bhattacharya (1993) is one of the few studies that looks at the issue, considering Turkey, in addition to Pakistan and Korea. He finds that foreign banks have been instrumental in attracting external capital to finance local projects. The cross-country nature of his study, however, does not permit a detailed analysis of the effects of foreign bank entry in Turkey on important issues such as profitability, efficiency, market structure and other qualitative impacts.

This paper attempts to analyze some of these issues by testing a number of hypotheses drawing upon Claessens, Demirguc-Kunt, and Huizinga (1998) and the

existing literature on the role of foreign banks in developing countries. In the recent literature, Levine (1996) points out that foreign bank entry is likely to be beneficial. He notes that they are likely to offer more sophisticated services and initially focus on market niches. He argues that this would have positive effects on competition, improve financial skills and technology, and foster strengthening of supervisory and legal infrastructure in the recipient country. This view lends support to Gelb and Sagari (1990) who emphasized the economy-wide resource allocation and efficiency effects of foreign bank entry.

Empirical studies are not numerous but, as reviewed in Claessens at al (1998), they point to the beneficial effects of foreign bank entry[1]. Claessens et al's study analyzes this question in 80 countries, developed and developing, and is the most comprehensive cross-country study to date. They find that foreign banks have higher interest rate margins, profitability and tax payments than local banks in developing countries. In industrialized nations, however, the opposite is true. In this paper, we follow a similar approach in studying the impact of foreign bank entry into the Turkish banking market.

The rest of the paper is organized as follows. In section II there is a short discussion of the macroeconomic setting and how this has affected the financial sector in Turkey. In section III we provide an overview of developments in the banking sector with a focus on foreign bank entry, and offer some comparisons between local and foreign banks. Section IV presents the empirical models used in the study and estimated results. Section V provides an assessment of those results, and section VI some conclusions.

II. MACROECONOMIC SETTING AND THE FINANCIAL SECTOR

The macroeconomic setting in Turkey over the last two decades has been dominated by chronic fiscal deficits with high and variable inflation, averaging about 70 percent, and relatively high and volatile GDP growth. The main reason for this has been Turkey's inability to implement the necessary structural reforms which, to date, is still the case. In 1989, Turkey liberalized its capital account, complicating macroeconomic management even more. The open capital account established a strong link between foreign and domestic rates and, given the unstable situation in Turkey, a large risk premium developed. As a result, domestic interest rates have been, and continue to be high which, in turn, negatively affects fiscal dynamics[2].

The openness of the economy, with persistent fiscal imbalances, put a premium on sound exchange rate management. While Turkey has followed a flexible exchange rate policy since 1980, high inflation and capital inflows caused real exchange rate appreciation during the 1990-1993 period. This situation provided strong incentives for external borrowing given the high domestic interest rates and, as expected, commercial bank borrowing abroad increased rapidly. From being negligible in the 1980s, Turkish banks' liabilities to non-residents reached almost 13 percent of their total liabilities by 1993.

Further deterioration in the fiscal situation in 1993, and major policy mistakes in foreign exchange and interest rate policies, led to a crisis in late 1993. The currency depreciated by almost 100 percent, three small banks failed and left the system. GDP

[1] Mcfadden (1994) analyzes Australia's experience with foreign bank entry. Bhattacharya (1993) looks at the cases of Turkey, Korea, and Pakistan. Pigott (1986). Terrell (1977) considers the cases of 14 developed countries, of which 8 allowed foreign bank entry.

contracted by 6 percent in 1994, the biggest drop in modern Turkish history. The ensuing financial panic, including a run on the larger banks, could only be contained when the deposit insurance coverage was raised to 100 percent.

Helped by the large depreciation of the currency and a favorable external environment, Turkey's economy rapidly strengthened in each of the following three years with growth averaging 7 percent per annum. Fiscal adjustment, however, could not be achieved. Given this serious constraint, the Central Bank began to target the real exchange rate, which meant depreciating the currency in line with inflation. Given high domestic rates, the likely path of the exchange rate became predictable and encouraged foreign borrowing. Banks and other large corporations again began to borrow abroad to buy high-yield government paper (Celasun et al 1999, Banks Association of Turkey, BAT 1997).

It is obvious from this summary that commercial banks have been operating in a difficult environment. Inflation has been high and variable, making it difficult to price financial assets, thus negatively impacting lending by banks. Bank lending to firms remained fairly stable between 1985-1995, and in that period loan to total assets ratios in the sector averaged 45 percent. Foreign banks' loans to total assets ratios have been consistently lower, about 26 percent on average between 1985-1995. Most of the lending has been short term, with over 85 percent of the loans having a maturity under one year and carrying high real interest rates, averaging at least 15-20 percent in the last decade. Banks have preferred to invest in liquid assets in this volatile environment, most

[2] See Celasun, Denizer, and Dong (1999) for a comprehensive analysis of capital flows, macroeconomic management and financial sector issues in Turkey

important being the government paper. In 1997, 10 percent of bank assets were in the form of treasury securities.

Another complication arising from high inflation is that it creates measurement problems with regard to bank profitability and capital adequacy. With chronic and volatile inflation, nominal profits do not mean much if the erosion in the value of their capital is taken into account. We take this factor into account by adjusting profits for the loss in the value of bank capital which, of course, reduces their profitability.

III. BANKING MARKET DEVELOPMENTS AND THE ENTRY PROCESS

In this section we provide a review of the banking market in Turkey, focusing on foreign bank entry, comparative performance of local and foreign banks, market structure in terms of concentration and some regulatory issues. Table 1 presents the financial market composition in Turkey. At the end of 1997 there were 59 commercial banks, 13 investment and development banks, more than 100 brokerage houses, and some sixty-four insurance companies. Focusing on the banking sector, it can be seen that since 1980 there has been a significant number of entries and exits. State-owned commercial banks declined in number from eight in 1980 to four in 1997. This decline has been due to the privatization or merger of some of the smaller public banks. Private banks increased in number from 24 in 1980 to 38 as of end of 1997, a net entry of 14.

As can be seen in Table 1, the most significant increase has been in the number of foreign banks. In 1980 there were only four foreign banks - by 1990 there were 23. This number then declined to 17, mostly as a result of some of the foreign banks merging with smaller Turkish banks. This is a net entry of 13 banks almost matching the number of de novo entries by local banks. Judging by this it seems that relaxing entry barriers

produced the expected results. Most of the foreign banks came in the 1980-1985 period and were owned by large banks of European, United States or Middle Eastern origin.

There were two major reasons for foreign bank entry. The first was that when Turkey liberalized its economy in the 1980s, foreign trade was small, exports were about US$2.9 billion and imports were US$7 billion. Since then, Turkey's exports and imports grew rapidly to US$26 billion and US$48 billion in 1997 respectively. The new and open trade regime required more sophisticated financial services and foreign trade financing. In the early 1980s foreign banks came for these reasons and quickly established themselves serving that niche. They anticipated the needs of Turkish and foreign companies and saw it as a profitable activity which would generate fee-based income.

The second reason was that Turkey pressed ahead with liberal policies, opening its capital account in 1989 and there was no policy reversal. Finally, the expectation that Turkey would sign a customs union with European Union in 1995 reinforced market perceptions that Turkey would maintain a liberal policy environment in general. These were in addition to relatively rapid economic growth, and Turkey's gateway position with respect to the CIS countries.

How do these bank groups compare in terms of efficiency, profitability, and market share? Tables 2 and 3 provide the basic data for a comparative analysis. Using standard accounting ratios such as ROE (return on equity), ROA (return on assets) and NIM (net intermediation margin) we see that foreign banks have been highly profitable. Looking at ROE, they had the best performance with the exception of 1986 and 1996. In terms of ROA, they had the best record and, in all years, had a higher ratio

than their Turkish counterparts. In terms of NIM, they have the best record as well. Figure 1 compares operating expenses between foreign and local banks. As can be seen, operating expenses of foreign banks start at a higher level than local private banks and then go hand-in-hand for a while. Foreign banks later reduce their costs below Turkish banks, but there is a big increase in 1988 and 1989. In the following years, Turkish banks have higher ratios and there does not seem to be a persistent and clear trend for both groups.

The evolution of foreign banks' market share in terms of assets, loans, and deposits shows that their shares have fluctuated but did not increase over time. In order to have a longer-term perspective we extended the analysis back to 1970. In terms of assets, we see that their share increased from 3.6 percent of total assets to 5 percent in 1997. With respect to loans, there is a decrease compared to the situation in 1970. The same is also true for deposits, accounting for only 3.4 percent of all deposits in the banking system. These are interesting results considering the number of entries. There is no visible increase in their traditional bank outputs and hence shares.

This implies two things. First, the shares of individual foreign banks relative to the banking system must be smaller now. There are more foreign banks but their shares did not increase proportionally. Second, if this is so, these banks are highly specialized and service niche areas and their profitability reflects substantial revenues from fee-based services.

Foreign banks are, in general, smaller than local banks, the largest being the Ottoman Bank, established in Turkey in 1863, which is not really perceived as a foreign bank. Total bank assets were about US$95 billion in 1997, of which US$4.5 billion

belonged to foreign banks. Foreign banks have smaller branch networks. Their total number of branches was about 116 in 1997 of the 6,795 bank branches in Turkey. Of this 116, almost 70 belong to Ottoman Bank. If the share of this bank is subtracted from market shares of other foreign banks, the resulting shares would be very small. This is another indication that foreign banks are not in the retail banking business. In fact, only the Ottoman Bank is engaged in retail banking among foreign banks.

However, this does not do justice to their impact on the sector. The competition in trade finance, corporate finance and, increasingly, in derivatives transactions has been intense. This where the foreign banks have mostly been operating. This is reflected in prices paid for fee-based services. As noted by Bhattarcharya (1993), fees on letters of credit declined from 1.5 percent to 0.5 percent and fees on letters of guarantees fell from 4 percent to 1 percent. While these reduced fees and commissions were initially only available to large customers, by 1995 medium sized firms were also enjoying lower rates. These are important benefits and are a good indicator of the effects of foreign entry, especially if one considers the rapid growth of Turkey's foreign trade.

What about market structure developments? This is shown to be a significant determinant of bank profitability in Turkey and hence it needs to be considered (Denizer, 1997, Aydogan 1994). As shown in Table 4, easing of entry restrictions reduced concentration in the sector. It can be seen that the traditional ratios, and the Herfindahl-Hirschman index, decline until about 1993 when concentration started to increase again. The observed declines in various concentration indices were due to the top 3-5 banks losing market share, in terms of deposits and loans, to the top 10 banks.

Foreign banks, as the above analysis indicates, have not been in the retail business and their impact on concentration has been minimal. While concentration ratios and indices are lower now than in 1980, this does not necessarily mean the system is more competitive. An important issue here is the bank branch network of the banks in the system before 1980. These banks set up their networks when the financial system was repressed and it was relatively cheap to do so, simply because the price of capital was distorted. With the freeing of interest rates in 1980 this was corrected, but existing banks had their large networks by that time giving them advantage over new entrants. In fact, branch concentration ratio remained fairly stable For this reason we take market structure and branch concentration factors into account in the empirical work presented below.

IV. DATA AND VARIABLES

All bank data used in this study comes from the annual publication of the Banks Association of Turkey titled "Banks in Turkey". This publication includes income statements, balance sheets and other information on a yearly basis and on every bank operating in Turkey.

Using this data the following variables were constructed : (i) net interest margin/ total assets, (ii) overhead costs/total assets; and (iii) before tax net income/total assets

average lending rate = interest and non-interest income received.

average loans (after adjusting for loan loss provisions).

average deposit rate = interest paid/average deposits.

net margin = average lending rate-average deposit rate/total assets (ta).

Before tax profits/ta = net margin/ta + non-interest income/ta.– overhead/ta – loan loss provisions/ta.

FNS = number share of foreign banks (number of foreign banks/total number of banks).

FMS = market share of foreign banks (assets of foreign banks/total assets of the banking system).

BRA = bank branch share (number of branches for each bank/total number of branches in the system).

Non-interest is added to account for non-lending activities. Overhead/ta variable is all overhead costs including all operating expenses and other expenses. Two sets of these independent variables are created. In the first set, these variables are created for all banks, including the foreign banks, and used in the first set of regressions. In the second set, performance measures are entered only for the domestic banks. The first set is used to ask: does foreign ownership matter in the determination of performance controlling for other factors? The second set is used to ask: what is the impact of foreign bank penetration on the performance of domestic banks controlling for other factors?

Independent variables include the following: For the first question we include a dummy variable, F1, if the bank is foreign owned. For the second question, we have two variables: (i)FNS which is the ratio of number of foreign banks to the ratio of the number of all banks to understand their impact on the three performance measures given above; and (ii) FMS, which is the asset share of foreign banks in the system. Other variables include, CA(1), which is the capital asset ratio lagged one period to account for different levels of risk across banks with low ratios indicating relatively risky positions. DA is

short and medium term deposits divided by total assets. Funding from core deposits is likely to be cheap. A high ratio would indicate that banks do not need to rely on purchased funds. As noted by Demirguc-Kunt and Huizinga (1988), this may require a large branch network. As economic growth can affect bank performance we control for this, and include annual rate of economic growth as one of the regressors. INF represents annual inflation rate to take its possible impact on bank performance. As real interest rates fluctuated significantly, and they have been high (ex-post), we control for this variable. It is it calculated as: (1 +nominal interest rate/1+inflation rate)-1X100). Nominal interest rate is the annualized rate on three-month government paper and this data was obtained from the Central Bank, as well as the inflation data. We control for market structure by including HHI in the equations. We also create another variable to test whether banks with large branch networks have market power. This variable is BRA (branch share of each bank in total branches).

V. RESULTS

All three performance measures are estimated using panel data estimation methods. We first tested whether explanatory power was improved by having bank-specific dummy variables. Once this was tested, we applied the Hausman test to determine whether fixed effects or random effects estimation would produce greater efficiency. We first focused on net interest margins and the results are presented in Table 5. In the first column we investigate whether foreign bank ownership is an important determinant of this performance indicator. The foreign bank dummy variable is significant which indicates that foreign ownership matters. The number share is not significant, however. Among variables of interest, it is worth noting DA, which is

intended to capture whether core deposits, as opposed to borrowed sources of funds, makes a difference. Results suggest that it does but in a negative way. Higher overheads increase net interest margin. It could be that higher interest margin is associated with large branch networks, high maintenance costs, and large salary expenses. Growth enters with a positive sign but it is not significant. Inflation is another significant variable, which is expected. Higher inflation increases overhead costs and the frequency of transactions, and banks can benefit from delayed payments to customers in an inflationary economy like Turkey's. Real interest variable is not significantly related to net interest margin. Finally, we have the market structure variable. The HHI is significant and positive which suggest that all banks benefit from market concentration. Using simpler concentration measures does not change the results. However, significance level decreases slightly.

The second and third columns test the impact on foreign entry on domestic banks' net interest margin directly. However, our results show that neither FNS nor FMS are related to net interest margin in a significant way. Taken together with the fact that foreign dummy is significant, this finding suggests that it is not the number of foreign banks in the system that explains net margins but probably the products and services they provide, and the way they are managed. It is interesting to note that bank branch share is significant in these specifications suggesting that individual banks have some market power.

Turning to our second performance measure, overheads (OEA), we implement similar tests. As shown in the first column in Table 6, foreign ownership is associated with higher overheads. This is consistent with Claessens et al (1998) who point out

that foreign banks may have to deal with high information costs. Another aspect of our finding is that, in Turkey, foreign banks pay significantly more than local banks and this increases their operating costs . With the exception of real interest rates, all other independent variables included in this specification are significant.

What is the impact of foreign entry on overheads? Columns 2 and 3 in Table 6 show that both the FNS and FMS are significant and enter with a negative sign. This suggests that the entry of foreign banks have the effect of reducing overhead costs of domestic banking system. In turn, this would imply increasing efficiency and resource utilization. Growth enters with a positive sign and it is significant. Inflation and real interest are also significant. Market structure is again highly significant. This may suggest that high concentration is associated with inefficient resource allocation and inefficiencies in the system reducing the positive impact of FNS and FMS on overheads.

Turning to return on assets (ROA), we perform the same type of analysis. Results are in Table 7. The first column shows that foreign ownership is related to ROA significantly. OEA enters with a positive suggesting that overheads increase ROA, which is counter intuitive. DA has a negative effect on ROA and is highly significant. Growth enters with a positive sign and is significant which is line with our expectations. Both inflation and real interest rates appear to be positively associated with ROA. Market structure and bank branch share variables turn out to be significant once more.

In columns 2 and 3 we use FNS and FMS as foreign bank penetration proxies. The results show that the foreign bank market share enters with a negative sign but it is not significant. However, the number share is strongly related to ROA and in a negative way. This suggests that foreign banks enhance competition and reduce domestic bank

profitability. Other independent variables enter more or less with the same sign and magnitude as in column 1.

In columns 4, 5, and 6 we use an adjusted ROA data to take into account the impact of inflation on bank profitability. We reduce nominal profits by the amount of reduction in real bank capital as a result of inflation. In another words, we keep bank capital constant in real terms. As shown in the table, this leads to important differences. Foreign ownership dummy is still highly significant. However, the real interest variable, in contrast to earlier results, becomes highly significant. The fact that it enters with a positive sign suggests that higher real rates of interest increase ROA. Inflation becomes insignificant. In columns 5 and 6 we look at the impact of FMS and FNS on the performance of domestic banks. In contrast to column 2, FMS becomes highly significant after adjusting ROA for inflation. It enters with a negative sign. The significance of FNS improves and it also enters with a negative sign.
These findings suggest that foreign bank entry had reduced ROA in the system, an indication of increased competition in the banking market.

VI. QUALITATIVE IMPACTS OF FOREIGN BANK ENTRY

The analysis so far has focused on the quantifiable impact of foreign bank entry. However, there are qualitative effects as pointed out by Levine (1996). Pehlivanli (1991), in her assessment of foreign entry during the 1980-1990 period, reports that foreign banks contributed to the quality of bank management in at least three ways: (i) planning; (ii) credit evaluation and marketing; and (iii) recruitment. She points out that financial and operations planning were not a standard and serious process in Turkey before the 1980s. Indeed, Turkish banks during the pre-1980 period were characterized

by financial repression. They projected previous years' accounting performance without due analysis of market and economic situation. They had all the incentives to expand as much as possible - collecting cheap deposits and putting them into investments carrying higher returns. They began to rationalize their branch networks following the liberalization of interest rates in 1980. For their planning needs, Turkish banks imitated foreign banks adopting planning, budgeting, and modern management information systems (MIS). By 1997, MIS investments were a major investment item for Turkish banks.

Foreign banks had a strong impact on credit evaluation and marketing. Previously, credit evaluation was based on personal information of credit officers and what was provided by the borrowers. There was little attempt to systematically investigate the borrower across the banking sector. Most of the banks did not have intelligence units before 1980. Marketing of financial products and services was not an area of activity of commercial banks in the pre-liberalization period. Banks were accustomed to waiting for loan applications and for other services they could offer.

When Citibank came in 1981 and started to operate with a structure that included marketing departments, it attracted new business from Turkish blue chip companies. This forced domestic banks to set up their own marketing units and most banks have such units now.

Recruitment and staff quality increased significantly after 1980. Foreign banks offered higher salaries and other incentives to attract well-trained college graduates. They developed training programs and often sent locally recruited staff to their training centers abroad. Under Citibank leadership, a banking school was established which is

still in operation. The ratio of university graduates to total employment in the sector rose from 10 percent in 1980 to 36 percent by the end of 1997. This ratio was the highest in foreign banks, about 61 percent, followed by private banks at 45 percent and state banks at 27 percent. More recently, the trend has been towards hiring MBAs, and both foreign and local banks are actively competing for well-trained graduates.

There have been technological and electronic banking developments as well. While this is a global phenomenon, not directly attributable to foreign bank entry alone, foreign banks initially took the lead in this area. Almost all Turkish banks now have in-line connections with their branch networks which reduces transaction costs and saves time. The number of ATMs is increasing rapidly. By the end of 1997 there were more than 6,500 ATM locations. Point of sales (POS) is also increasing and, at the end of 1997, this number stood at almost 60,000. The number of credit cards has been increasing at a very rapid rate and, in terms of new card issues, Turkey was leading Europe in 1997. Total number of cards was almost 5 million at the end of 1997, (TBA, 1997).

VII. CONCLUSIONS

There has been a record number of foreign and local bank entries into the Turkish banking sector following the relaxation of bank entry, elimination of controls on interest rates and financial intermediation in general in 1980. This despite high and volatile inflation which dominated the macroeconomic scene in Turkey. The country's financial integration with the rest of the world took a big step with the opening up of the capital account in 1989, and capital inflows increased significantly. The financial system became increasingly linked with external markets.

Our objective in this study has been to examine one dimension of this liberalization process, namely the impact of foreign bank entry into the financial sector. Available data shows that foreign bank entry continued steadily through the 1980s, peaking at 23 in 1990 from four in 1980. Together with 13 new local bank entries, the total number in the sector reached 56 in 1990. In the following years, some foreign banks merged with each other or with local banks. By the end of 1997 there had been 17 net foreign bank entries since 1980.

Our formal analysis focused on three performance measures: net interest margin; overhead expenses; and return on assets; all expressed as a percentage of total assets. We first examined whether foreign ownership made a difference controlling for a number of factors used in the literature. We found that foreign bank ownership is related to all three performance measures. Our more direct examination of the effects of foreign bank entry on domestic bank performance shows that foreign bank entry, in general, produced the expected beneficial results. Our results show that foreign bank entry had the effect of reducing overhead expenses of domestic commercial banks. When return on assets was adjusted for the effects of inflation on profits and bank capital, we found that the impact of foreign bank entry on profits get stronger. Both measures of foreign bank penetration were negatively related to return on assets. This indicates that foreign bank entry had a strong competitive effect in Turkey despite the fact that the scale of their operations has been small. This result also shows that nominal profits and bank capital need adjustment in high inflation environments.

While foreign ownership was related to net interest margin, foreign bank penetration measures were not. Market structure has been an important factor in the

explanation of all performance measures used in this study and this suggests that the market could benefit from more competition.

We also reviewed the qualitative aspects of foreign bank entry. We found that foreign banks contributed to the financial sector's development in various ways, especially in financial and operations planning, credit analysis and marketing, and human capital. While these benefits can not all be attributed to foreign bank entry, and while this is a multifaceted issue, there are strong indications that foreign banks had a positive impact in these areas.

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Table 1
Number of Firms

Year	Commercial Banks				Investment & Development Banks	Individual Broker-Dealers	Brokerage Houses	Insurance Companies
	State-Owned	Private	Foreign	Total				
1980	8	24	4	36	2	...	...	...
1981	8	24	6	38	2	...	...	...
1982	8	24	9	41	2	...	...	...
1983	8	19	10	37	2	...	...	...
1984	8	19	13	40	2	...	...	...
1985	8	20	15	43	2	...	...	...
1986	8	24	17	49	6	8	11	...
1987	9	24	17	50	6	15	16	...
1988	8	26	19	53	8	18	18	...
1989	8	24	21	53	9	22	20	...
1990	8	25	23	56	10	17	48	42
1991	8	26	21	55	10	...	110	46
1992	6	31	20	57	12	...	112	49
1993	6	32	20	58	12	...	112	52
1994	6	29	20	55	12	...	111	53
1995	...	...	...	...	...	...	103	...
1996	5	34	17	56	13	...	100	...
1997	4	38	17	59	13	...	...	64

Source:The Banks' Association of Turkey for bank data, Istanbul stock exchange for brokage data and treasury for insurance data.

Table 2
Return on Equity, Return on Assets and Net Margin
(in percent)

	Return on equity	Return on asset	Net interest margin
	1980		
State-Owned Banks	12.14	1.51	3.41
Private Banks	68.25	1.03	4.25
Foreign Banks	204.20	2.54	3.95
	1983		
State-Owned Banks	5.17	0.71	1.42
Private Banks	28.88	1.10	1.22
Foreign Banks	111.07	3.88	2.58
	1986		
State-Owned Banks	18.96	1.51	1.93
Private Banks	79.14	2.12	2.03
Foreign Banks	58.05	3.15	3.02
	1990		
State-Owned Banks	55.35	1.89	4.45
Private Banks	19.77	2.88	5.88
Foreign Banks	56.18	3.62	8.66
	1993		
State-Owned Banks	75.98	2.48	7.54
Private Banks	74.62	2.88	8.51
Foreign Banks	76.71	4.19	11.82
	1996		
State-Owned Banks	42.05	0.66	4.86
Private Banks	107.67	4.20	9.40
Foreign Banks	78.69	5.40	12.09

Source: The Banks Association of Turkey.

Table 3
Share of Banking Market

% of total	Assets	Loans	Deposits
		1970	
State-owned Banks	60.3	54.6	39.5
Private Banks	36.0	41.8	56.4
Foreign Banks	3.6	3.6	4.1
		1975	
State-owned Banks	50.3	50.5	35.2
Private Banks	46.1	46.2	61.2
Foreign Banks	3.6	3.3	3.5
		1980	
State-owned Banks	49.3	53.4	34.0
Private Banks	47.6	44.4	63.7
Foreign Banks	3.1	2.2	2.3
		1985	
State-owned Banks	47.7	48.0	41.9
Private Banks	48.4	48.2	55.3
Foreign Banks	3.8	3.8	2.7
		1990	
State-owned Banks	49.9	46.3	48.6
Private Banks	46.3	50.1	49.0
Foreign Banks	3.8	3.6	2.4
		1994	
State-owned Banks	44.3	44.3	44.6
Private Banks	52.3	53.6	53.4
Foreign Banks	3.4	2.1	1.9
		1995	
State-owned Banks	40.7	44.1	43.3
Private Banks	56.2	53.8	54.0
Foreign Banks	3.1	2.1	2.7
		1996	
State-owned Banks	40.7	38.9	44.1
Private Banks	56.1	59.1	53.4
Foreign Banks	3.2	1.9	2.5
		1997	
State-owned Banks	36.5	37.7	39.9
Private Banks	58.5	59.3	56.7
Foreign Banks	5.0	3.0	3.4

Source: The Banks Association of Turkey

TABLE 4

Number of Commercial Banks and Measures of Concentration

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Concentration Measures (in percent)															
CR(3) ASSETS	50.54	48.61	50.43	52.21	52.27	49.70	47.81	45.94	44.25	44.74	42.70	40.60	40.59	38.81	39.32
CR(5) ASSETS	63.97	62.41	62.88	63.89	64.54	64.56	62.17	60.71	60.21	57.93	56.18	54.28	53.10	52.61	54.81
CR(10) ASSETS	82.97	81.89	82.34	82.13	82.65	83.20	81.39	79.32	80.92	79.75	78.88	77.37	76.58	75.59	80.34
CR(3) DEPOSIT	53.79	51.37	55.69	56.75	58.08	54.49	53.04	49.58	47.41	46.84	43.34	39.77	42.78	41.42	40.66
CR(5) DEPOSIT	70.17	69.22	70.09	70.63	71.63	69.70	67.96	64.11	63.98	61.86	59.12	55.22	57.42	55.07	57.27
CR(10) DEPOSIT	89.24	87.25	88.25	88.16	88.39	87.54	85.93	84.30	85.95	84.79	84.83	82.23	82.81	81.14	83.65
CR(3) BRANCH	42.18	41.21	40.85	42.26	42.51	42.91	42.84	43.20	43.48	43.50	44.04	44.98	47.03	46.61	47.31
CR(5) BRANCH	61.76	60.57	60.02	61.61	61.79	61.97	61.67	61.83	61.94	61.98	61.93	62.09	63.41	62.52	62.25
CR(10) BRANCH	84.88	84.09	83.28	85.13	85.04	85.00	84.54	84.74	86.75	86.86	86.57	86.15	86.89	85.32	84.70
HHI ASSETS	11.70	10.87	10.74	12.26	12.23	11.36	10.79	10.21	9.63	9.79	9.09	8.40	8.46	8.06	8.55
HHI BRANCH	9.51	9.22	9.08	9.57	9.63	9.67	9.58	9.67	9.89	9.90	9.92	10.04	10.51	10.29	10.32
HHI DEPOSIT	12.26	11.69	13.01	13.58	14.02	12.95	12.34	11.08	10.77	10.91	10.06	8.79	9.50	9.19	9.40

Source: The Banks' Association of Turkey and own calculations.

Note: CR(x)= x bank concentration ratio, HHI= Herfindahl Index.

Table 5

Net Interest Margin Results
Estimation Methods: Fixed Effects

	(1)	(2)	(3)
FI	0,005 (2,20)		
FNS	0.0441 (1.23)		0.076 (1.56)
FMS		-0.365 (-1.44)	
CA	0.39	(.42)	0.07
LA	0.020 (1.94)	0.024 (1.98)	0.039 (1.24)
DA	-0.06 (-3.21)	-0.004 (-3.34)	-0.002 (-2.01)
OEA	-0.431 (-2.92)	-0.532 (-3.34)	-0.631 (-3.24)
GR	0.091 (1.44)	0.115 (1.91)	0.107 (1.32)
INF	0.421 (2.64)	0.385 (2.79)	0.1971 (1.98)
RI	0.059 (0.68)	0.031 (0.49)	0.0285 (0.74)
HHI	0.231 (2.57)		
BRA		0.641 (1.98)	0.871 (2.07)
Adj. R2	0.45	0.40	0.39

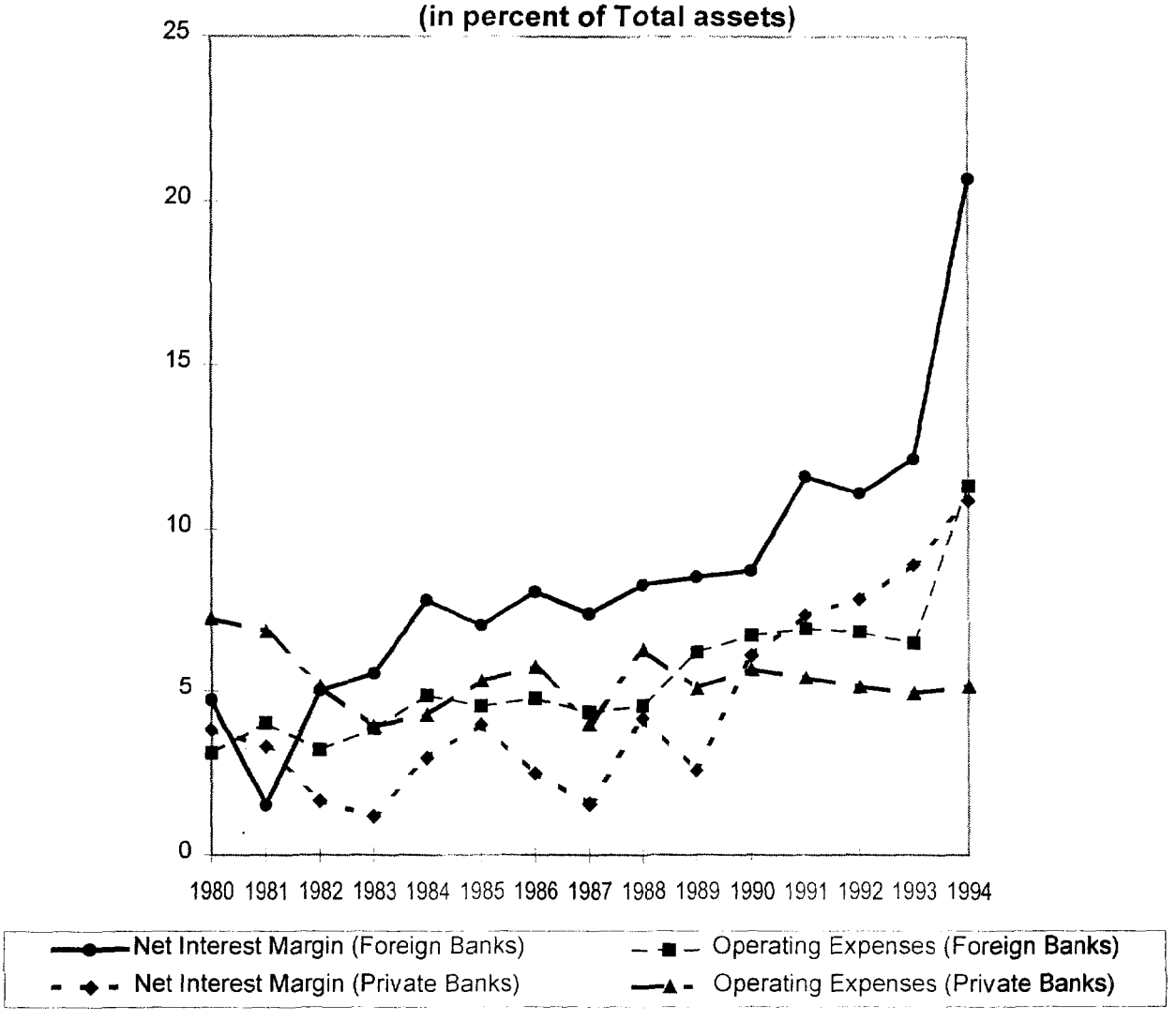
Table 6
Overhead Expenses Results
Estimation Method: Random Effects

	(1)	(2)	(3)
FI	0.094 (1.92)		
FNS	0.024 (1.12)		-0.037 (-2.19)
FMS		-0.079 (-1.77)	
CA	0.59 (1.88)	0.77 (1.95)	0.79 (1.89)
LA	-0.044 (-1.99)	-0.021 (-1.34)	-0.034 (-1.89)
DA	0.033 (2.22)	0.029 (2.04)	0.037 (2.12)
GR	0.0617 (1.72)	0.057 (1.98)	0.062 (1.97)
INF	0.34 (2.23)	0.42 (2.12)	0.36 (2.44)
RI	-0.25 (-0.74)	-0.32 (-0.95)	-0.27 (-0.77)
HHI	0.092 (2.72)		
BRA		0.072 (2.34)	0.81 (2.21)
Adj. R2	0.38	0.31	0.36

Table 7
Return on Assets Results
Estimation Method: Random Effects

	(1)	(2)	(3)	(4)	(5)	(6)
FI	0,005 (2,20)			0.041 (2.62)		
FNS	0.18 (1.32)		-0.032 (-2.12)	0.012 (1.09)		-0.27 (-2.52)
FMS		-0.32 (-1.22)			-0.44 (-1.96)	
CA	0.123 (1.52)	0.164 (1.44)	0.07	0.323 (2.35)	0.271 (1.88)	0.38 (1.90)
LA	0.020 (1.94)	0.062 (2.01)	0.039 (1.24)	0.371 (1.05)	0.032 (1.21)	0.041 (1.37)
DA	-0.044 (1.97)	-0.004 (-3.34)	-0.002 (-2.01)	-0.174 (-3.12)	-0.321 (-2.72)	-0.39 (-2.27)
GR	-0.07 (-1.99)	-0.067 (-2.12)	0.107 (1.32)	0.136 (1.25)	0.171 (1.42)	0.196 (1.74)
OEA	0.03 (2.02)	0.04 (1.98)		0/07 (2.21)	0.069 (2.42)	0.057 (2.34)
INF	0.033 (1.89)	0.047 (2.00)	0.1971 (1.98)	0.39 (1.27)	0.31 (1.25)	0.52 (1.65)
RINT	0.45 (1.62)	0.67 (1.89)	0.0285 (0.74)	0.27 (3.02)	0.02 (2.17)	0.028 (2.25)
HHI	0.019 (2.42)			0.034 (2.32)		
BRA		0.048 (2.33)	0.061 (1.94)		0.033 (2.27)	0.039 (2.30)
Adj. R2	0.47	0.52	0.44	0.52	0.47	0.51

FIGURE 1
Net Interest Margins and Operating Expenses Evolution
(in percent of Total assets)



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